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#16 Appeal Brief (3)

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April 30, 2003
Date

Charles P. Landrum

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
David V. SANGAR and
Stanley M. LEMON

Serial No.: 09/587,653

Filed: June 5, 2000

For: 3' SEQUENCE OF THE GB VIRUS B(GBV-B) GENOME

Group Art Unit: 1648

Examiner: L. Scheiner

Atty. Dkt. No.: UTSG:231US

APPEAL BRIEF

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APPEAL BRIEF

Board of Patent Appeals and Interferences
Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

This Appeal Brief is filed in response to the Final Office Action mailed on October 21, 2002. The deadline for submission of this Brief is May 4, 2003, by virtue of the date (March 4, 2003) stamped on the return postcard filed with the Notice of Appeal filed on February 21, 2003.

Should any other fees be due, or the attached fee be deficient or absent, the Commissioner is authorized to withdraw the appropriate fees from Fulbright & Jaworski Deposit Account No. 50-1212/UTSG:231US/GNS.

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I. STATUS OF THE CLAIMS

Claims 1-50 were filed with the application. Claims 51-56 have been added. Claims 1-18, 22-26 and 34-50 are withdrawn from consideration. Claims 51-55 have been withdrawn with

traverse and are the subject of a Petition for Reconsideration of Restriction Requirement that is pending. A copy of the Petition for Reconsideration of Restriction Requirement is provided in Appendix A. Briefly, the restriction involves differentiation between SEQ ID NO:1 and SEQ ID NO:2. Pending claim 19 recites SEQ ID NO:1 and withdrawn claims 51-55 recite SEQ ID NO:2. The Appellants note that SEQ ID NO:2 contains all of SEQ ID NO:1, as shown in the sequence listing and described on page 6 of the specification. Appellants strongly disagree with the position that SEQ ID NO:2 would require an additional search.

Claims 19-21, 27-33 and 56 were pending at the time of the Final Office Action (the "Action") and stand appealed. A copy of the appealed claims is attached as Appendix B.

II. STATUS OF THE AMENDMENTS

An amendment was submitted subsequent to mailing of the final Office Action and prior to the issuance of an Advisory Action. The proposed amendment was submitted in order to further clarify the claims and place the claims in better form for appeal. The Examiner indicated in the Advisory Action dated January 21, 2003 that the amendment was not entered due to new issues being raised, but did not fully explain the reason for not allowing entry of the amendment.

An Amendment conforming to 37 C.F.R. 1.116 presenting the rejected claims 19 and 56 in better form for appeal is filed concurrently. Support for the amendments may be found throughout the specification, for example, at least on page 5 lines 20 to 28 and page 24. The appealed claims are presented in Appendix B, a marked version of claims with the proposed amendments are presented in Appendix C, and a clean copy of the claims with the proposed amendment entered are presented in Appendix D.

III. STATEMENT OF INTEREST

The real party in interest is the assignee, the Regents of the University of Texas, Austin, Texas.

IV. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

V. SUMMARY OF THE INVENTION

The present invention addresses the need for improved methods of producing GBV-B or chimeric GBV-B virus. Certain embodiments include a method of producing a virus comprising: introducing into a host cell a recombinant viral expression construct comprising a polynucleotide encoding a 3' sequence of GBV-B, wherein the polynucleotide comprises 50 contiguous nucleotides from SEQ ID NO:1; and culturing said host cell under conditions permitting production of a virus from said construct. The polynucleotide may comprise 100 contiguous nucleotides from SEQ ID NO:1. In certain embodiments, the polynucleotide comprises SEQ ID NO:1. Support may be found at least on page 6-7 of the specification and in the claims as originally filed.

A host cell may be a prokaryotic cell or a eukaryotic cell. In certain embodiments, the host cell is in an animal. Support may be found at least on page 6 of the specification and in the claims as originally filed.

In certain embodiments, said polynucleotide comprises recombinant RNA or a recombinant DNA. Support may be found at least on page 7 of the specification and in the claims as originally filed.

In certain embodiments, the invention may further comprising the step of isolating virus from said host cell. The virus may be purified to homogeneity. Support may be found at least on page 4-7 of the specification and in the claims as originally filed.

In certain embodiments of the invention a method of producing a virus may comprise obtaining a virus produced by the methods described above; introducing the virus into a second host cell; and culturing said host cell under conditions permitting production of virus from said construct. Support may be found at least on page 4-7 of the specification.

VI. ISSUES ON APPEAL

Are claims 19-21, 27-33 and 56 vague and indefinite under 35 U.S.C. 112, second paragraph?

VII. GROUPING OF THE CLAIMS

For purposes of this Appeal, the claims stand or fall together.

VIII. SUMMARY OF THE ARGUMENT

Claims 19-21, 27-33 and 56 are rejected under 35 U.S.C. 112, second paragraph, as being vague and indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Contrary to the rejection, appealed claims 19-21, 27-33 and 56 set forth the subject matter that Appellants regard as their invention and convey to one of skill in the art the scope of the claimed invention with a ***reasonable degree of certainty***. The subject matter set forth in the pending claims must be analyzed in light of A) the specification; B) the teachings of the prior art; and C) the claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made. The

claims read in light of these factors apprises one of ordinary skill in the art of the scope of the claims and satisfies the requirements of 35 U.S.C. 112, second paragraph.

IX. ARGUMENT

A. Substantial Evidence Required to Uphold the Examiner's Position

As an initial matter, Appellant notes that findings of fact and conclusions of law by the U.S. Patent and Trademark Office must be made in accordance with the Administrative Procedure Act, 5 U.S.C. § 706(A), (E), 1994. *Dickinson v. Zurko*, 527 U.S. 150, 158 (1999). Moreover, the Federal Circuit has held that findings of fact by the Board of Patent Appeals and Interferences must be supported by "substantial evidence" within the record. *In re Gartside*, 203 F.3d 1305, 1315 (Fed. Cir. 2000). In *Gartside*, the Federal Circuit stated that "the 'substantial evidence' standard asks whether a reasonable fact finder could have arrived at the agency's decision." *Id.* at 1312.

Accordingly, it necessarily follows that an Examiner's position on Appeal must be supported by "substantial evidence" within the record in order to be upheld by the Board of Patent Appeals and Interferences.

B. Claims 19-21, 27-33 and 56 Are Definite

As stated in the Action dated October 21, 2002, claims 19-21, 27-33 and 56 are rejected under 35 U.S.C. 112, second paragraph, as being vague and indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Action states on page 3 that "applicants claim a ***method of producing a virus*** by introducing into a host cell a recombinant viral expression construct comprising a polynucleotide encoding a 3' sequence of GBV-B. One cannot determine that which applicants intend." (emphasis added)

The Examiner states that it is unclear what is being claimed and that she cannot determine what is intended. Appellants respectfully traverse this rejection.

The standard for definiteness of a claim is whether a person of skill in the art can determine the scope of the invention based on the language of the claims with "a reasonable degree of certainty." MPEP 2173.02 (citing *In re Wiggins*, 488 F.2d 538, 179 U.S.P.Q. 421 (C.C.P.A. 1973)). Appealed claim 19 reads "A method of producing a virus comprising introducing into a host cell a recombinant viral expression construct ***comprising*** a polynucleotide encoding a 3' sequence of GBV-B, wherein the polynucleotide comprises 50 contiguous nucleotides from SEQ ID NO:1; and culturing said host cell ***under conditions permitting production of a virus from said construct.***" (Emphasis added). One of ordinary skill would understand with reasonable certainty that the claims set out and circumscribe a method for producing a virus by expression of a recombinant viral construct including the 3' sequence of GBV-B in a host cell. The viral expression construct ***comprises*** a polynucleotide encoding the 3' sequence of GBV-B, which is a novel and necessary element for generating the virus. the term "comprising" makes it clear that the recombinant viral expression construct may includes other sequences, including viral sequences. There is nothing in the claim that prevents one of ordinary skill in the art to identify any method that falls within the scope of the claimed invention.

Appellants note that if a potential infringer produces a virus by introducing into a cell a viral expression construct having a polynucleotide with a 3' GBV-B sequence and culturing that cell that the performance of those steps would clearly infringe this method claim. Claims serve a notice function: "The primary purpose of this requirement if definiteness of claim language is to ensure that the scope of the claim is clear so the public is informed of the boundaries of what

constitutes infringement of the patent." MPEP § 2173, at 2100-163 (7th ed.). In this case, the claims have served that function because there is no ambiguity as to what is required to infringe the claim. Thus, one of ordinary skill can understand with reasonable certainty the full scope of the claim. On that basis alone, the claim is definite.

In fact, the Action has not identified what, if any, element of the claims are unclear to one of ordinary skill in the art. Again, the standard of definiteness is whether the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity to one of ordinary skill. This standard must be applied in light of the specification, the prior art, and the interpretation that would be given one possessing ordinary skill. One of ordinary skill would, with a reasonable degree of certainty, understand that the claimed invention is directed to a method of producing a virus and that person would know, as discussed above, what steps were involved in that method.

The Action lacks not only "substantial evidence"—as is required to maintain the rejection—that the claims are indefinite, but *any evidence* that the claims are indefinite. Not a single reference is cited in the Action to support the Examiner's position. Also, the arguments presented by the Action fail to establish that any element of the appealed claims are vague and indefinite. The Examiner argues that it is unclear what virus is produced. However, what one calls the virus that is produced is irrelevant to the issue of definiteness, particularly if the Examiner is relying on the preamble to limit the body of the claim.

Appellants fail to understand what is unclear about the claimed ***method of producing a virus***, particularly in light of the summary of invention and the examples provided in the specification. For example, the specification states in the summary of invention that "an

infectious molecular clone of GBV-B would be very useful for the development of HCV preventative and therapeutic treatments" and "The invention has utility in that the inclusion of the sequence will be necessary for construction of an infectious molecular GBV-B clone," page 4 of the specification. Examples of the construction of an infectious clone and chimeras of infectious clones are provided in Example 2 "Construction of an infectious GBV-B clone", pages 34-35; Example 4 "Construction of a full length GBV-B clone", pages 37-38; and Example 6 "Construction of GBV-B/HCV chimeras", pages 40-42 of the specification, as well as a description of the rescue of infectious clones in Example 5 "Rescue of infectious GBV-B", pages 38-39 of the specification. Appellants clearly establish that the recited 3' sequence of GBV-B virus is the novel aspect of the invention and the specification describes how to use the 3' GBV-B sequence in the production of the virus. The claims recite a step involving a polynucleotide comprising the 3' sequence.

Additionally, the specification describes a biologically functional RNA genome of GBV-B virus, which contains a single reading frame that encodes a polyprotein. The polyprotein is subsequently acted on by proteases to produce functional protein components of a GBV-B virus, see the specification at least on page 9, lines 3 to 12. The specification on page 4 states that "A full length copy of the GBV-B genome was constructed to contain the newly identified 3' terminal sequences. RNA transcribed from this cDNA copy of the genome would be infectious ...", *i.e.* a recombinant viral expression construct containing this sequence, when expressed in a cell, produces a virus. In addition, a variety of modified viruses may be produced. Thus, one of ordinary skill would understand with a reasonable degree of certainty that a "virus" as stated in the claims is an infective agent capable of multiplying in connection with living cells, *i.e.*, an infective organism. One of ordinary skill would further understand that a virus can be produced

by expression of an RNA, particularly from a recombinant viral expression construct. Thus, a virus produced from introducing a viral expression construct comprising a polynucleotide encoding a 3' sequence of GBV-B would be understood by one of ordinary skill in the art to include a polynucleotide that when expressed produces a transcript capable of being processed by the host cell to produce a ***virus***.

Moreover, the term "virus" is well known to one of ordinary skill in the art as evinced by the definition provided in Webster's New Twentieth Century Dictionary, Unabridged, that defines "virus" as "...any of a group of ultramicroscopic or submicroscopic ***infective*** agents that cause various disease...viruses are capable of ***multiplying in connection with living cells***...." (Appendix E, emphasis added). The term "virus" as used in the appealed claims and in the specification is not used contrary to its usual meaning. Appellants note that the use of the term virus in no way renders the claims indefinite. Claim breadth cannot be equated with indefiniteness,*In re Miller*, 441, F.2d 689, 169 USPQ 597 (CCPA 1971)), so any argument that the claims are directed to any and all viruses is irrelevant in determining the definiteness of the claims.

Furthermore, an "expression construct" is described in the specification and would be readily apparent to one of ordinary skill in the art. Appellants are baffled by the Examiner's statement on page 3 that Appellants appear to confuse an expression construct with a viable virus. The specification, on page 24 states that "The term "expression construct" is meant to include any type of genetic construct containing a nucleic acid coding for a gene product in which part or all of the nucleic acid encoding sequence is capable of being transcribed." In addition, the GBV-B virus is described on page 9 of the specification as a RNA virus, thus the

introduction of recombinant viral expression construct that expresses the RNA genome of a virus requiring the 3' sequence of GBV-B, *i.e.* a gene product, would be capable of producing a viable virus. There is no confusion on the part of the Appellants regarding the production of a virus by expression of a polynucleotide encoding viral genome in a host cell.

Although not necessary, Appellants submitted a proposed amendment after the final Office Action to clarify further the pending claims (Appendix C and D). However, these claim amendments were not entered by the Examiner because she asserted they would raise new issues and require a new search. Appellants resubmit those claims amendments again because while they do not limit the claims in any way, Appellants believe they would clarify the claims and reduce the issues on appeal. If the amendment is entered the proposed claims 19 and 56 would read:

> 19. A method of producing a virus comprising: introducing into a host cell a recombinant GBV-B viral expression construct comprising a polynucleotide encoding a 3' terminal sequence of GBV-B, wherein the polynucleotide comprises 50 contiguous nucleotides from SEQ ID NO:1; and culturing said host cell under conditions permitting production of a virus from said construct.
>
> 56. A method of producing a GBV-B or chimeric GBV-B virus comprising: obtaining a virus produced by the method of claim 19, introducing the virus into a second host cell; and culturing said host cell under conditions permitting production of virus.

Appellants note that while the unamended claims were definite and met all the requirements of 35 U.S.C. §112, the Examiner has unreasonably refused to enter these amendments while maintaining her indefiniteness rejection.

In summary, the Examiner has failed to show that a person of ordinary skill in the art would be unable to determine the scope of the claim with reasonable certainty. The only terms she identifies as unclear are "virus" and "expression construct," which are terms well known to

those of skill in the art and used in the specification consistent with the person's understanding. As such, the rejection is not substantiated, does not meet the "substantial evidence"requirement, and should be withdrawn.

C. Applicants claim what applicants regard as their invention.

The Action dated October 21, 2002 states on the last line of page 3 to page 4, lines 1 to 3: "Again it is impossible to determine that which applicants consider to be their invention. The pending claims do not in anyway correspond to what is taught in the specification; further resulting in an inability to determine the metes and bounds of the claims." This statement can be read only as describing a rejection under 35 U.S.C. §112, second paragraph, for failure to set forth the subject matter that the applicants regard as their invention, thus, obscuring the basis for rejection under 35 U.S.C. §112, second paragraph and rendering the Final Office Action ambiguous. In the interest of a full and complete response to the Final Office Action mailed October 21, 2002, Appellants address this issue below.

As set forth in section 2172(I) of the MPEP regarding the requirement of 35 U.S.C. §112, second paragraph, to set forth the subject matter that applicants regard as their invention: "A rejection based on the failure to satisfy this requirement is appropriate only where applicant has stated, somewhere other than in the application as filed, that the invention is something different from what is defined by the claims. In other words, the invention set forth in the claims ***must be*** presumed, in the ***absence of evidence to the contrary***, to be that which applicants regard as their invention (MPEP 2172 citing *In re Moore*, 439 F.2d 1232, 169 USPQ 236 (CCPA 1971)) (emphasis added). Furthermore, agreement, or lack thereof, between the claims and the specification is properly considered only with respect to 35 U.S.C. §112, first paragraph; it is

irrelevant to compliance with 35 U.S.C. §112, second paragraph (MPEP 2172(II) citing *In re Ehrreich*, 590 F.2d 902, 200 USPQ 504 (CCPA 1979)).

The Action provides no evidence, particularly in the form of contentions or admissions in briefs or remarks by the Appellant, that shows that the claims do not correspond in scope with that which the applicant regards as applicants' invention. The content of applicants' specification cannot be used as evidence that the scope of the claims is inconsistent with what the applicants regard as their invention. Thus, the rejection of claims 19-21, 27-33 and 56 under 35 U.S.C. §112, second paragraph, on this basis is improper and not substantiated.

Thus, in light of the aforementioned, claims 19-21, 27-33 and 56 satisfy the requirements of 35 U.S.C. §112, second paragraph. Appellants respectfully request that the Board withdraw the rejection under 35 USC §112, second paragraph.

X. CONCLUSION

In light of the foregoing, Appellants respectfully submit that the claims on appeal should not be rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Withdrawal of the rejection and allowance of the pending claims are requested.

Respectfully submitted,

Charles P. Landrum

Charles P. Landrum, Ph.D.
Reg. No. 46,855

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512-536-5674
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Date: April 30, 2003

APPENDIX A: Copy of Petition for Reconsideration of Restriction Requirement

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
SANGAR et al.

Serial No.: 09/587,653

Filed: June 5, 2000

For: 3'SEQUENCE OF THE GB VIRUS B (GVB-B) GENOME

Group Art Unit: 1648

Examiner: Schneiner, L.

Atty. Dkt. No.: UTSG:231US

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December 23, 2002
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Charles P. Landrum

PETITION FOR RECONSIDERATION OF RESTRICTION REQUIREMENT

Commissioner of Patents
Washington, D.C. 20231

Dear Sir:

This is submitted in response to the decision, provided in the Final Office Action mailed on October 21, 2002, regarding a restriction requirement advanced on March 27, 2002, in the above-captioned application. The petition fee is attached. Should the fee be missing, or should any other fees under 37 C.F.R. §§ 1.16 to 1.21 be required for any reason relating to this document, the Commissioner is authorized to deduct said fees from Fulbright & Jaworski Deposit Account No. 50-1212/10019302/MBW.

Applicants are petitioning the withdrawal of claims 51-55 from examination. A restriction requirement was mailed on October 3, 2001 restricting originally filed claims 1-50 into four groups. Group I, claims 1-18, 22-26 and 34-44, drawn to polynucleotide and constructs; Group II, claims 19-21 and 27-33, drawn to methods of producing virus; Group III, claims 45-47, drawn to methods for identifying a compound active against viral infection; and Group IV, claims 48-50, drawn to compounds active against viral infection. In the Response to Restriction Requirement mailed January 3, 2002 Applicants elected to prosecute, without traverse, claims 19-22 and 27-33, *i.e.*, group II. In addition to electing the claims of group II Applicants added claims 51-55, which applicants contend are within the scope of group II. Subsequently, in the Office Action mailed on March 27, 2002 the Examiner withdrew claims 51-55 as being directed to a non-elected invention.

In their response to the restriction requirement set forth in the Office Action mailed on March 27, 2002, which was upheld in the Final Office Action mailed October 21, 2002, applicants traversed the separation of claims 51-55 from Group II, drawn to methods of producing virus, *i.e.*, pending claims 19-21, 27-33 and 56, as follows:

> Claims 51-55 depend from claim 19. Claim 19 reads "A method of producing a virus comprising: introducing into a host cell a recombinant viral expression construct comprising a polynucleotide encoding a 3' sequence of GBV-B, wherein the polynucleotide comprises 50 contiguous nucleotides from SEQ ID NO:1; and culturing said host cell under conditions permitting production of virus from said construct." The claim as amended recites SEQ ID NO:1, and claims 51-55 recite SEQ ID NO:2. The Applicants note that SEQ ID NO:2 contains all of SEQ ID NO:1, as shown in the sequence listing and described on page 6 of the specification. Because claims 51-55 incorporate the limitations of claim 19, from which they depend, these claims are directed to nucleic acids whose structure is similar. Hence, no additional search would be required by the Examiner for claims 51-55 should claim 19 be found allowable, because of the overlap in sequence with independent claim 19. The Examiner and the Applicants' representative discussed in a telephone conference, which Applicants' representative appreciates, the possibility of a species election. Should the Examiner deem a species election between SEQ ID NO:1 and SEQ ID NO:2 to be

required, Applicants elect SEQ. ID. NO:1. Applicants retain the right to have a reasonable number of species examined, should the elected species be found patentable.

The examiner's rebuttal to this line of reasoning is that "... the respective structures do in fact differ and applicants' remarks are both presumptive, with respect to search burden, and incorrect since an additional search of SEQ ID NO:2 would be required. The Examiner has also determined that a species requirement is inappropriate in the instant case due to structural differences between the sequence identifiers to which the claims in question are limited."

Applicants disagree with the Examiner's reasoning and conclusion regarding the withdrawal of claims 51-55. Applicants reiterate that claims 51-55 depend from claim 19. Claim 19, as amended reads "A method of producing a virus comprising: introducing into a host cell a recombinant GBV-B viral expression construct comprising a polynucleotide encoding a 3' terminal sequence of GBV-B, wherein the polynucleotide comprises 50 contiguous nucleotides from SEQ ID NO:1; and culturing said host cell under conditions permitting production of virus from said construct." The claim as amended recites SEQ ID NO:1, and claims 51-55 recite SEQ ID NO:2, which comprises SEQ ID NO:1 and additional viral sequences. The Applicants note that SEQ ID NO:2 contains all of SEQ ID NO:1, as shown in the sequence listing and described on page 6 of the specification. Because claims 51-55 incorporate the limitations of claim 19, from which they depend, these claims are directed to nucleic acids whose structure is similar. Hence, no additional search would be required by the Examiner for claims 51-55 should claim 19 be found allowable, because of the overlap in sequence with independent claim 19.

For the Commissioner's benefit, Applicants have provided a clean copy of the claims as amended in Response to the Final Office Action mailed October 21, 2002 (Appendix A).

Therefore, applicants respectfully petition the Commissioner to overturn the restriction of claims 51-55. Should any questions regarding this paper arise, the interested party should contact the undersigned at 512-536-5674.

Respectfully submitted,

Charles P. Landrum
Reg. No. 46,855
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Date: December 23, 2002

APPENDIX A – CLEAN COPY OF CLAIMS AS AMENDED IN RESPONSE TO FINAL OFFICE ACTION

19. (Twice amended) A method of producing a virus comprising:

introducing into a host cell a recombinant GBV-B viral expression construct comprising a polynucleotide encoding a 3' terminal sequence of GBV-B, wherein the polynucleotide comprises 50 contiguous nucleotides from SEQ ID NO:1; and

culturing said host cell under conditions permitting production of a virus from said construct.

20. The method of claim 19, wherein said polynucleotide comprises 100 contiguous nucleotides from SEQ ID NO:1.

21. The method of claim 20, wherein said polynucleotide comprises SEQ ID NO:1.

27. The method of claim 19, wherein said host cell is a prokaryotic cell.

28. The method of claim 19, wherein said host cell is a eukaryotic cell.

29. The method of claim 28, wherein said host cell is in an animal.

30. The method of claim 19, wherein said polynucleotide comprises recombinant RNA.

31. The method of claim 19, wherein said polynucleotide comprises recombinant DNA.

32. The method of claim 19, further comprising the step of isolating virus from said host cell.

33. The method of claim 32, wherein said virus is purified to homogeneity.

51. (Withdrawn) The method of claim 19, wherein said polynucleotide comprises at least 250 contiguous nucleotides of SEQ ID NO:2.

52. (Withdrawn) The method of claim 19, wherein said polynucleotide comprises at least 500 contiguous nucleotides of SEQ ID NO:2.

53. (Withdrawn) The method of claim 19, wherein said polynucleotide comprises at least 1000 contiguous nucleotides of SEQ ID NO:2.

54. (Withdrawn) The method of claim 19, wherein said polynucleotide comprises at least 5000 contiguous nucleotides of SEQ ID NO:2.

55. (Withdrawn) The method of claim 19, wherein said polynucleotide comprises SEQ ID NO:2.

56. (Amended) A method of producing a GBV-B or chimeric GBV-B virus comprising:

obtaining a virus produced by the method of claim 19;

introducing the virus into a second host cell; and

culturing said host cell under conditions permitting production of virus.

APPENDIX B: APPEALED CLAIMS

19. A method of producing a virus comprising:

introducing into a host cell a recombinant viral expression construct comprising a polynucleotide encoding a 3' sequence of GBV-B, wherein the polynucleotide comprises 50 contiguous nucleotides from SEQ ID NO:1; and

culturing said host cell under conditions permitting production of a virus from said construct.

20. The method of claim 19, wherein said polynucleotide comprises 100 contiguous nucleotides from SEQ ID NO:1.

21. The method of claim 20, wherein said polynucleotide comprises SEQ ID NO:1.

27. The method of claim 19, wherein said host cell is a prokaryotic cell.

28. The method of claim 19, wherein said host cell is a eukaryotic cell.

29. The method of claim 28, wherein said host cell is in an animal.

30. The method of claim 19, wherein said polynucleotide comprises recombinant RNA.

31. The method of claim 19, wherein said polynucleotide comprises recombinant DNA.

32. The method of claim 19, further comprising the step of isolating virus from said host cell.

33. The method of claim 32, wherein said virus is purified to homogeneity.

56. A method of producing a virus comprising:

obtaining a virus produced by the method of claim 19,

introducing the virus into a second host cell; and

culturing said host cell under conditions permitting production of virus from said construct.

APPENDIX C: MARKED COPY OF PROPOSED AMENDMENTS FILED CONCURRENTLY WITH APPEAL BRIEF

19. (Twice amended) A method of producing a virus comprising:

introducing into a host cell a recombinant GBV-B viral expression construct comprising a polynucleotide encoding a 3' terminal sequence of GBV-B, wherein the polynucleotide comprises 50 contiguous nucleotides from SEQ ID NO:1; and

culturing said host cell under conditions permitting production of a virus from said construct.

56. (Amended) A method of producing a GBV-B or chimeric GBV-B virus comprising:

obtaining a virus produced by the method of claim 19;

introducing the virus into a second host cell; and

culturing said host cell under conditions permitting production of virus[from said construct].

APPENDIX D: CLEAN COPY OF PROPOSED AMENDMENTS FILED CONCURRENTLY WITH APPEAL BRIEF

19. A method of producing a virus comprising:

introducing into a host cell a recombinant GBV-B viral expression construct comprising a polynucleotide encoding a 3' terminal sequence of GBV-B, wherein the polynucleotide comprises 50 contiguous nucleotides from SEQ ID NO:1; and

culturing said host cell under conditions permitting production of a virus from said construct.

20. The method of claim 19, wherein said polynucleotide comprises 100 contiguous nucleotides from SEQ ID NO:1.

21. The method of claim 20, wherein said polynucleotide comprises SEQ ID NO:1.

27. The method of claim 19, wherein said host cell is a prokaryotic cell.

28. The method of claim 19, wherein said host cell is a eukaryotic cell.

29. The method of claim 28, wherein said host cell is in an animal.

30. The method of claim 19, wherein said polynucleotide comprises recombinant RNA.

31. The method of claim 19, wherein said polynucleotide comprises recombinant DNA.

32. The method of claim 19, further comprising the step of isolating virus from said host cell.

33. The method of claim 32, wherein said virus is purified to homogeneity.

56. A method of producing a GBV-B or chimeric GBV-B virus comprising:

obtaining a virus produced by the method of claim 19;

introducing the virus into a second host cell; and

culturing said host cell under conditions permitting production of virus.

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vī′rŭs, *n.* [L., poison.]

1. venom, as of a snake.

2. (a) any of a group of ultramicroscopic or submicroscopic infective agents that cause various diseases, as smallpox: viruses are capable of multiplying in connection with living cells and are variously regarded as living organisms and as complex proteins; (b) specifically, a filtrable virus; (c) the exudation from the vesicles of cowpox, used as a vaccine for smallpox.

3. that which corrupts or poisons the mind or character; evil or harmful influence.